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DATE: Friday, January 19, 2007

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Symbol Report: IRS1


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Core Data		Database Links		
Approved Symbol <u>+</u>	IRS1	Pubmed IDs <u>+</u>		
Approved Name <u>+</u>	insulin receptor substrate 1	1648180	<u>PMID</u>	
HGNC ID <u>+</u>	HGNC:6125	OMIM ID (mapped data) <u>+</u>		
Status <u>+</u>	Approved	147545	<u>OMIM</u>	
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Previous Symbols <u>+</u>		3667	<u>Gene</u>	<u>Map Vi</u>
Previous Names <u>+</u>		RefSeq (mapped data) <u>+</u>		
Aliases <u>+</u>	HIRS-1	NM_005544	<u>GenBank</u>	<u>UCSC</u> <u>Browse</u>
Name Aliases <u>+</u>		UniProt ID (mapped data) <u>+</u>		
		P35568	<u>SwissProt</u>	<u>UniPro</u>
Gene Symbol Links		Specialist Database Links <u>+</u>		
<u>Ensembl</u> <u>GeneView</u> <u>GENATLAS</u> <u>GeneCards</u> <u>HCOP</u> <u>GeneClinics/GeneTests</u> <u>Vega</u> <u>Treefam</u>				

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The work of the HGNC is supported by NHGRI grant P41 HG003345, the UK Medical Research Council and the Wellcome Trust.



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This page last updated: April 25, 2005






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 Catarrhini; Hominidae; Homo.

REFERENCE 1 (bases 1 to 5828)
 AUTHORS Bayazit,Y.A., Erdal,M.E., Yilmaz,M., Ciftci,T.U., Soylemez,F.,
 Gokdogan,T., Kokturk,O., Kemaloglu,Y.K. and Koybasioglu,A.
 TITLE Insulin receptor substrate gene polymorphism is associated with
 obstructive sleep apnea syndrome in men
 JOURNAL Laryngoscope 116 (11), 1962-1965 (2006)
 PUBMED [17075427](#)
 REMARK GeneRIF: Polymorphism of the insulin receptor substate-1 gene at
 codon 972, especially Gly/Arg variant, appears to be associated
 with occurrence of obstructive sleep apnea syndromes in male
 patients, whereas this polymorphism is not related to severity of
 OSAS

REFERENCE 2 (bases 1 to 5828)
 AUTHORS Greene,M.W., Ruhoff,M.S., Roth,R.A., Kim,J.A., Quon,M.J. and
 Krause,J.A.
 TITLE PKCdelta-mediated IRS-1 Ser24 phosphorylation negatively regulates
 IRS-1 function
 JOURNAL Biochem. Biophys. Res. Commun. 349 (3), 976-986 (2006)
 PUBMED [16970908](#)
 REMARK GeneRIF: Ser24 is a negative regulatory phosphorylation site in
 IRS-1.

REFERENCE 3 (bases 1 to 5828)
 AUTHORS Shah,O.J. and Hunter,T.
 TITLE Turnover of the active fraction of IRS1 involves raptor-mTOR- and
 S6K1-dependent serine phosphorylation in cell culture models of
 tuberous sclerosis
 JOURNAL Mol. Cell. Biol. 26 (17), 6425-6434 (2006)
 PUBMED [16914728](#)
 REMARK GeneRIF: These studies suggest that, through serine
 phosphorylation, Raptor-mTOR and S6K1 promote the depletion of IRS1
 from specific intracellular pools in pathological states of insulin
 and IGF-I resistance and in lesions associated with tuberous
 sclerosis.

REFERENCE 4 (bases 1 to 5828)
AUTHORS Danielsson,A., Nystrom,F.H. and Stralfors,P.
TITLE Phosphorylation of IRS1 at serine 307 and serine 312 in response to insulin in human adipocytes
JOURNAL Biochem. Biophys. Res. Commun. 342 (4), 1183-1187 (2006)
PUBMED [16516141](#)
REMARK GeneRIF: Negative feedback phosphorylation of serine 312 required relatively high concentrations of insulin (EC(50)=3 nM) for a long time (t(1/2) ca. 30 min) and reduced the steady-state tyrosine phosphorylation, without affecting the concentration, of IRS1.

REFERENCE 5 (bases 1 to 5828)
AUTHORS Weigert,C., Hennige,A.M., Lehmann,R., Brodbeck,K., Baumgartner,F., Schauble,M., Haring,H.U. and Schleicher,E.D.
TITLE Direct cross-talk of interleukin-6 and insulin signal transduction via insulin receptor substrate-1 in skeletal muscle cells
JOURNAL J. Biol. Chem. 281 (11), 7060-7067 (2006)
PUBMED [16418171](#)
REMARK GeneRIF: interleukin-6 has a role in insulin signal transduction via insulin receptor substrate-1 in skeletal muscle cells

REFERENCE 6 (bases 1 to 5828)
AUTHORS Wolf,G., Trub,T., Ottinger,E., Groninga,L., Lynch,A., White,M.F., Miyazaki,M., Lee,J. and Shoelson,S.E.
TITLE PTB domains of IRS-1 and Shc have distinct but overlapping binding specificities
JOURNAL J. Biol. Chem. 270 (46), 27407-27410 (1995)
PUBMED [7499194](#)

REFERENCE 7 (bases 1 to 5828)
AUTHORS Wang,L., Hayashi,H., Mitani,Y., Ishii,K., Ohnishi,T., Niwa,Y., Kido,H. and Ebina,Y.
TITLE Cloning of a cDNA encoding a 190-kDa insulin receptor substrate-1-like protein of simian COS cells
JOURNAL Biochem. Biophys. Res. Commun. 216 (1), 321-328 (1995)
PUBMED [7488107](#)

REFERENCE 8 (bases 1 to 5828)
AUTHORS Hadari,Y.R., Tzahar,E., Nadiv,O., Rothenberg,P., Roberts,C.T. Jr., LeRoith,D., Yarden,Y. and Zick,Y.
TITLE Insulin and insulinomimetic agents induce activation of phosphatidylinositol 3'-kinase upon its association with pp185 (IRS-1) in intact rat livers
JOURNAL J. Biol. Chem. 267 (25), 17483-17486 (1992)
PUBMED [1381348](#)
REMARK Erratum:[J Biol Chem 1993 Apr 25;268(12):9156]

REFERENCE 9 (bases 1 to 5828)
AUTHORS Nishiyama,M. and Wands,J.R.
TITLE Cloning and increased expression of an insulin receptor substrate-1-like gene in human hepatocellular carcinoma
JOURNAL Biochem. Biophys. Res. Commun. 183 (1), 280-285 (1992)
PUBMED [1311924](#)

REFERENCE 10 (bases 1 to 5828)
AUTHORS Sun,X.J., Rothenberg,P., Kahn,C.R., Backer,J.M., Araki,E., Wilden,P.A., Cahill,D.A., Goldstein,B.J. and White,M.F.
TITLE Structure of the insulin receptor substrate IRS-1 defines a unique signal transduction protein
JOURNAL Nature 352 (6330), 73-77 (1991)
PUBMED [1648180](#)

COMMENT PROVISIONAL REFSEQ: This record has not yet been subject to final NCBI review. The reference sequence was derived from [S62539.1](#).

Publication Note: This RefSeq record includes a subset of the publications that are available for this gene. Please see the

Entrez Gene record to access additional publications.

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